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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/711,444      | 09/20/2004  | Chao-Fu Weng         | 8012-US-PA-1        | 5443             |

31561 7590 04/06/2005

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE  
7 FLOOR-1, NO. 100  
ROOSEVELT ROAD, SECTION 2  
TAIPEI, 100  
TAIWAN

EXAMINER

MANDALA, VICTOR A

ART UNIT PAPER NUMBER

2826

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/711,444

Applicant(s)

WENG, CHAO-FU

Examiner

Victor A. Mandala Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S.

Patent No. 6,066,877 Williams et al.

1. Referring to claim 1, a chip structure with bumps comprising; a chip having an active surface, (Figure 8 #70 & 71), and at least a bonding pad, (Figure 8 #73), wherein the bonding pad, (Figure 8 #73), is formed on the active surface, (Figure 8 #70 & 71); and at least a bump, (Figure 8 #80A & 80B), disposed on the bonding pad, (Figure 8 #73), and the bump, (Figure 8 #80A & 80B), comprising: a medium layer, (Figure 8 #80A), disposed on the bonding pad, (Figure 8 #73), wherein a material of the medium layer, (Figure 8 #80A), includes zinc, (Col. 5 Line 59); a bump body, (Figure 8 #80B), disposed on the medium layer, (Figure 8 #80A), wherein a material of the bump body, (Figure 8 #80B), includes nickel, and a bump body passivation layer, (Figure 8 #80C), covering the bump body, (Figure 8 #80B), except for a portion of the bump body, (Figure 8 #80B), that connects to the medium layer, (Figure 8 #80A), wherein a material of the bump body passivation layer includes gold, (Figure 8 #80C).
2. Referring to claim 2, a chip structure with bumps, wherein a height of the bump is about 5 to 10 microns, (Col. 5 Line 52).

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3. Referring to claim 3, a chip structure with bumps, wherein a thickness of the bump body passivation layer is about 1 to 3 microns, (Col. 6 Lines 3-4).
4. Referring to claim 4, a bump suitable to be disposed on a chip, wherein the chip has an active surface, (Figure 8 #70 & 71), and at least a bonding pad, (Figure 8 #73), that exposes the active surface, (Figure 8 #70 & 71), and the bump, (Figure 8 #80A & 80B), comprising: a medium layer, (Figure 8 #80A), disposed on the bonding pad, (Figure 8 #73); and a bump body, (Figure 8 #80B), disposed on the medium layer, (Figure 8 #80A), wherein a material of the bump body, (Figure 8 #80B), includes nickel.
5. Referring to claim 5, a bump, further comprising a bump body passivation layer, (Figure 8 #80C), covering the bump body except for a portion of the bump body, (Figure 8 #80B), that connects to the medium layer, (Figure 8 #80A).
6. Referring to claim 6, a bump, wherein a material of the bump body passivation layer includes gold, (Figure 8 #80C).
7. Referring to claim 7, a bump, wherein a thickness of the bump body passivation layer, (Figure 8 #80C), is about 1 to 3 microns, (Col. 6 Lines 3-4).
8. Referring to claim 8, a bump, wherein a height of the bump is about 5 to 10 microns, (Col. 5 Line 52).
9. Referring to claim 9, a bump, wherein a material of the medium layer, (Figure 8 #80A), includes zinc, (Col. 5 Line 59).
10. Referring to claim 10, a bump suitable to be disposed on a chip, wherein the chip has an active surface, (Figure 8 #70 & 71), and at least a bonding pad, (Figure 8 #73), that exposes the active surface, (Figure 8 #70 & 71), and the bump, (Figure 8 #80A & 80B), comprising: a medium layer, (Figure 8 #80A), disposed on the bonding pad,

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(Figure 8 #73), wherein a material of the medium layer, (Figure 8 #80A), includes zinc, (Col. 5 Line 59); and a bump body, (Figure 8 #80B), disposed on the medium layer, (Figure 8 #80A).

11. Referring to claim 11, a bump, further comprising a bump body passivation layer, (Figure 8 #80C), covering the bump body, (Figure 8 #80B), except for a portion of the bump body, (Figure 8 #80B), that connects to the medium layer, (Figure 8 #80A).

12. Referring to claim 12, a bump, wherein a material of the bump body passivation layer includes gold, (Figure 8 #80C).

13. Referring to claim 13, a bump, wherein a thickness of the bump body passivation layer is about 1 to 3 microns, (Col. 6 Lines 3-4).

14. Referring to claim 14, a bump, wherein a height of the bump is about 5 to 10 microns, (Col. 5 Line 52).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor A. Mandala Jr. whose telephone number is (571) 272-1918. The examiner can normally be reached on Monday through Thursday from 8am till 6pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VAMJ  
3/31/05

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